

The above data shows that the gelling agents are effective to inhibit aspiration by small volume extraction with various solvents both at room temperature and after the sample is heated to boiling temperature.

We claim:

1. A solid oral dosage form comprising a heat-labile gelling agent; a thermal stabilizer; a drug susceptible to abuse; and a pH-modifying agent.
2. The solid oral dosage form of claim 1, wherein the heat-labile gelling agent is a polymer.
3. The solid oral dosage form of claim 2, wherein the polymer is a polysaccharide.
4. The solid oral dosage form of claim 3, wherein the polysaccharide is a microbial polysaccharide.
5. The solid oral dosage form of claim 4, wherein the microbial polysaccharide is xanthan gum.
6. The solid oral dosage form of claim 1, wherein the thermal stabilizer is a gelling agent different than the heat-labile gelling agent.
7. The solid oral dosage form of claim 6, wherein the thermal stabilizer gelling agent is a polymer.
8. The solid oral dosage form of claim 7, wherein the thermal stabilizer gelling agent polymer is an anionic polymer in a neutral pH aqueous solution.
9. The solid oral dosage form of claim 8, wherein the anionic polymer is a polyacrylic acid.
10. The solid oral dosage form of claim 9, wherein the polymer is carbomer homopolymer.
11. The solid oral dosage form of claim 10, wherein the heat-labile gelling agent is a polysaccharide.
12. The solid oral dosage form of claim 11, wherein the polysaccharide is a microbial polysaccharide.
13. The solid oral dosage form of claim 1, wherein the heat-labile gelling agent is xanthan gum and the thermal stabilizer is carbomer homopolymer.
14. The solid oral dosage form of claim 1, wherein the pH-modifying agent provides a pH of between about 5.5 and 8.5 to a viscous solution obtained when the dosage form is crushed and mixed with 5 mL of distilled water.
15. The solid oral dosage form of claim 14, wherein the pH-modifying agent provides a pH of between about 6 and 8.
16. The solid oral dosage form of claim 15, wherein the pH-modifying agent provides a pH of between about 6.5 and 7.5.
17. The solid oral dosage form of claim 1, wherein the pH-modifying agent is sodium bicarbonate.
18. The solid oral dosage form of claim 1, further comprising a disintegrant.
19. The solid oral dosage form of claim 18, wherein the disintegrant is selected from the group consisting of polyvinylpyrrolidone, sodium starch glycolate, crosscarmellose sodium and a mixture thereof.
20. The solid oral dosage form of claim 1, further comprising a filler.
21. The solid oral dosage form of claim 20, wherein the filler is selected from the group consisting of lactose, dextrose, mannitol, microcrystalline cellulose and a mixture thereof.
22. The solid oral dosage form of claim 1, comprising the heat-labile gelling agent in an amount from about 0.25% to about 75% (w/w) of the dosage form.
23. The solid oral dosage form of claim 1, comprising the thermal stabilizer in an amount from about 0.25% to about 90% (w/w) of the dosage form.

24. The solid oral dosage form of claim 1, wherein the ratio of the heat-labile gelling agent to the thermal stabilizer is from about 1:10 to about 10:1 (w/w).

25. The solid oral dosage form of claim 1, comprising the pH-modifying agent in an amount from about 0.1% to about 25% (w/w) of the dosage form.

26. The solid oral dosage form of claim 18, comprising the disintegrant in an amount from about 1% to about 25% (w/w) of the dosage form.

27. The solid oral dosage form of claim 20, comprising the filler in an amount from about 5% to about 95% (w/w) of the dosage form.

28. The solid oral dosage form of claim 1, wherein the ratio of the drug to the heatlabile gelling agent is from about 1:40 to about 40:1 (w/w).

29. The solid oral dosage form of claim 1, further comprising an aversive agent.

30. The solid oral dosage form of claim 29, wherein the aversive agent is selected from the group consisting of emetics, antagonists, bittering agents, irritants and mixtures thereof.

31. The solid oral dosage form of claim 1, wherein the drug is selected from the group consisting of opioid agonists, tranquilizers, CNS depressants, CNS stimulants, sedative hypnotics, and mixtures thereof.

32. The solid oral dosage form of claim 1, wherein the drug is an opioid agonist.

33. The solid oral dosage form of claim 32, wherein the opioid agonist is selected from the group consisting of codeine, morphine, oxycodone, oxymorphone, hydrocodone, hydromorphone, pharmaceutically acceptable salts thereof, and mixtures thereof.

34. The solid oral dosage form of claim 33, wherein the opioid agonist is oxycodone or a pharmaceutically acceptable salt thereof.

35. The solid oral dosage form of claim 34, comprising from about 5 mg to about 30 mg oxycodone or a pharmaceutically acceptable salt thereof.

36. The solid oral dosage form of claim 1, wherein the viscosity of the dosage form mixed with from about 0.5 to about 10 ml of distilled water prevents the drug from being systemically absorbed, or reduces the ability of the drug to be systemically absorbed, when administered by the parenteral or nasal route.

37. The solid oral dosage form of claim 1, wherein the viscosity of the solid oral dosage form after crushing and mixing with from about 0.5 to about 10 ml of distilled water prevents the drug from being systemically absorbed, or reduces the ability of the drug to be systemically absorbed, when administered by the parenteral or nasal route.

38. The solid oral dosage form of claim 36, wherein the viscosity after mixing with from about 0.5 to about 10 ml of distilled water is at least about 10 cP.

39. The solid oral dosage form of claim 36, wherein the viscosity after mixing with from about 0.5 to about 10 ml of distilled water is from about 50 cP to about 1,000 cP.

40. The solid oral dosage form of claim 36, wherein the viscosity after mixing with from about 0.5 to about 10 ml of distilled water is from about 100 cP to about 5,000 cP.

41. The solid oral dosage form of claim 1, which provides an immediate release of the drug.

42. The solid oral dosage form of claim 1, which provides a controlled release of the drug.

43. The solid oral dosage form of claim 41, wherein the dosage form releases at least about 85% of the drug within 45 minutes as measured by in-vitro dissolution in a USP Apparatus 2 (paddle) at 50 rpm in 500 ml SGF at 37° C.